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Remarks

Claims 1-18 were pending in the application. Claims 1-18 were rejected. No claims were merely objected to and no claims were allowed. By the foregoing amendment, no claims are canceled, no claims are amended, and claims 19-21 are added. No new matter is presented.

New Claims

New claims 19 and 20 are supported by existing claims 16 and 17. new claim 21 is supported by existing claim 2.

Claim Rejections-35 U.S.C. 103

Claims 1, 2, 4-8, and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter, Jr. (US5494004) in view of Adams (US4545329). Applicant respectfully traverses the rejection.

At page 2, the Office action listed four factual inquiries under *Graham v. John Deere*. However, the Office action then failed to provide sufficient analysis of these factors. For example, there is no resolution of the level of ordinary skill or consideration of objective evidence present including teachings of the references indicating obviousness or non-obviousness.

It appears the Office has merely attempted to engage in a keyword search, finding various words that appear in the claims in the references. However, it does not appear that the Office has actually thought through, let alone articulated the nature of the combination of elements that those words represent. What does the asserted combination look like? What features of each of the references are present, what features are left out, and why?

Adams' element 43 was asserted as the inner wall downstream rim. Office action, page 4, line 5. This, however, appears to beg the question of where the claim 4 outer wall downstream rim is and where the claim 4 outlet is.

However, the second full paragraph of page 6 adds the conclusory assertion that "inner and outer walls have [sic] downstream rim at 35. In Hunter's invention the outlet location is between the inner and out [sic] walls (fig 8) as recited in claim 4." However, this again begs the

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question of exactly what are the inner and outer walls? Is the examiner drawing these from Hunter, Jr. or Adams? What do they look like in the final asserted combination?

Furthermore, Applicant is confused by the inconsistency of the claim 4 rejection in the absence of similarly rejecting its intervening claim 3. Clarification is requested.

Furthermore, and with particular relevance to claim 8, there clearly has been insufficient analysis of the scope and content of the prior art and interpretation of the claims. Specifically, claim 8 is written in means-plus-function language under 35 U.S.C. 112(6). There has been no analysis under this section as required by *In re Donaldson*. The final paragraph of page 5 of the Office action attempts to dodge this requirement by the insufficient assertion that the terms "means for mounting the nozzle to an upstream soot blower" and "means for cooling the nozzle" are not repeated *ipsis verbis* in the specification. The Office then asserts that "the means for mounting the nozzle are flanges and bolts as disclosed in the specification (para [0029] page 5); and means for cooling the nozzle is water as disclosed on para [0042] page 11." Office action, page 6, lines 1-3. The former is correct, the latter is not. The latter ignores structure. Structure and use of a nozzle cooling gas is discussed in paragraph 0043.

Turning to specifics, Hunter, Jr. involves an articulating soot blower. Hunter, Jr. includes oddly named apertures 21A and 31A which wind back and forth between ends of the members 21 and 31 to carry cooling water.

Adams "relates generally to gas/oil fired commercial and residential water heaters..." Col. 1, lines 13&14. There is no substantiation for the assertion that Adams is in the same area of endeavor as either Hunter, Jr. or the present disclosure. Adams discloses flange mounting of a fire tube assembly 31 to a tank 13. The first full paragraph of page 6 of the Office action highlights the improper nature of the combination as an abuse of keyword searching (discussed further below). It was asserted that "Adams discloses a water heater and the mounting of a combustion tube 33 on the wall of a vessel 21. Both Hunter and the present application disclose the mounting of a combustion tube on the wall of a vessel." The Office overly relies on the formative "combust" to assert analogy between the fire tube assembly of Adams and the combustion soot blower of Hunter, Jr.

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It was asserted as having been obvious "to modify Hunter's cleaning apparatus by including the limitations taught by Adams and recited above in order to provide an apparatus where the tube is easily removed by detaching the mounting flange as taught by Adams (column 2 line 36-38)." Office action, page 4, second full paragraph. This is circular logic and conclusory. For example, there is no reason to assume that one of ordinary skill in the art would have regarded Hunter, Jr. as being insufficiently easily removable so as to require modification. To the contrary, the Hunter, Jr. lack of a flange clearly evidences ease of removing. Thus, there is no indication that Hunter, Jr. needed any more removability than it already had (which appears to exceed the removability of Adams).

The water tank of Adams and boiler wall 83 are clearly non-analogous to Hunter, Jr. and, frankly, are inverted. The latter contains warm gas in a space through which boiler tubes pass. The former contains water.

Furthermore, as a general matter, flanges are old and notorious in many arts. Flanges would clearly have been available to Hunter, Jr. The fact that Hunter, Jr. did not himself adopt such a flange is evidence of non-obviousness (e.g., teaching away). This is distinguished, for example, from the situation of a secondary reference embodying a recently-developed technology. This is not merely a case of applying a recent development already used to modify one similar device to similarly modify another. "Applying modern electronics to older mechanical devices has been commonplace in recent years." *Leapfrog Enterprises Inc. v. Fisher-Price Inc.*, __ F.3d __, __, 82 USPQ2d 1687, 1691 (Fed. Cir. 2007). "There then was a marketplace creating a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for doing so." *KSR International Co. v. Teleflex Inc.*, 550 U.S. __, __, 127 SCt 1727, __, 167 LEd2d 705, __, 82 USPQ2d 1385, 1390 (U.S. 2007).

The present case is clearly distinguished for example from that of *KSR* and *Leapfrog*. The present inventors have not simply modified one basic sootblower in a similar way to which the recent prior art has modified similar sootblowers. To a great extent, *KSR* and *Leapfrog* deal with obvious subject matter wherein the obviousness arose too recently for a convenient anticipatory reference to be found.

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The present secondary reference Adams is clearly nonanalogous to the primary reference Hunter, Jr. This is clearly different from *KSR* and *Leapfrog*, wherein similar modifications are found in analogous references for analogous purposes.

The present secondary reference (more particularly the elements/teachings for which it is cited) is also not particularly recent. Thus, the art has had more than sufficient time to have adopted those elements/teachings but has not done so. Thus, unlike *KSR* and *Leapfrog*, had the invention been obvious, one would clearly have expected an anticipatory reference to have arisen in the passage of time.

Unlike *KSR* and *Leapfrog*, the Office action did not identify a recently-arisen prior art need (e.g., a strong market incentive) that would similarly give reason for the modification.

Claims 3, 9-16, and 18 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter, Jr. in view of Adams and further in view of Beusman (US3084373). Applicant respectfully traverses the rejection.

Beusman discloses a cooled steam soot blower rather than a combustion-operated soot blower. The soot blower has a radially/circumferentially extending array of nozzles 12. Cooling air is introduced through a tube 19. The air passes through ducts 14 and a sheath 13.

It was asserted as having been obvious "to modify Hunter in view of Adams's cleaning apparatus by including all the limitations taught by Beusman and recited above in order to provide a cleaning apparatus that uses readily available and cheap air in an open cooling cycle as taught by Beusman (column 1 line 41 42, column 3, line 25-27)." Office action, page 5, second paragraph. This is clearly an insufficient reason. This is a new hindsight justification totally different from the prior asserted reason at the third paragraph of page 5 of the prior Office action. This is also confusing because of the apparent inconsistency in the rejections of claims 3 and 4. The motivation is totally circular and conclusory. What is the motivation for using air relative to water (also cheap)? What is the motivation for using an open system relative to a closed system?

Second, there is no indication that one of ordinary skill in the art would have selected any modification from Beusman. Beusman is a substantially different structure than Hunter, Jr. Beusman involves a radial discharge of steam from an array of small discrete steam nozzles. Hunter, Jr. involves discharge of a shockwave from the end of a single conduit. These are greatly

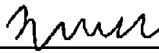
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different situations. There is no indication of how Beusman would be adapted to Hunter, Jr. without destroying its basic functionality or with any chance of functioning, let alone an expectation of having advantageous performance.

Again, Beusman substantially predates Hunter, Jr. Presumably, had any combination been obvious, Hunter Jr. would have made it. This is similarly distinguished from the situation of a recently-arisen need or secondary reference being used to modify a variety of existing references as in *KSR* and *Leapfrog*.

Accordingly, Applicant submits that claims 1-21 are in condition for allowance. Please charge any fees or deficiency or credit any overpayment to our Deposit Account of record.

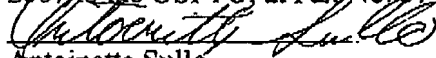
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I hereby certify that this correspondence is being facsimile transmitted this 22nd day of October, 2007 to the USPTO, at Fax No. 571-273-8300.


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